State of Utah

JON M. HUNTSMAN, JR.
Governor

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Department of
Environmental Quality

Richard W. Sprott
Executive Director

DIVISION OF AIR QUALITY
Cheryl Heying
Director

DAQE-IN0140800001-08

November 12, 2008

Alfred Jorgensen
Consolidated Energy Utah
1200 Chase Tower
50 West Broadway
Salt Lake City, UT 84101

Dear Mr. Jorgensen:

Re: Intent to Approve: Notice of Intent for a 109 MW Cogeneration Plant, Davis County; CDS B; MACT (Part 63), NSPS (Part 60), Nonattainment or Maintenance Area, Title IV (Part 72 / Acid Rain)
Project Number: N014080-0001

The attached document is the Intent to Approve for the above-referenced project. The Intent to Approve is subject to public review. Any comments received shall be considered before an Approval Order is issued. The Division of Air Quality is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an Approval Order. An invoice will follow upon issuance of the final Approval Order.

Future correspondence on this Intent to Approve should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. The project engineer for this action is John Jenks, who may be reached at (801) 536-4459.

Sincerely,

Ty L Howard, Manager
Major New Source Review Section

TLH:JJ:kw

cc: Mike Owens
Salt Lake Valley Health Department
Davis County Health Department

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

INTENT TO APPROVE: Notice of Intent for a 109 MW Cogeneration Plant.

Prepared By: John Jenks, Engineer
Phone: (801) 536-4459
Email: jjenks@utah.gov

INTENT TO APPROVE NUMBER

DAQE-IN0140800001-08

Date: November 12, 2008

Consolidated Energy Utah- Cogeneration Plant

Source Contact:
Mr. Alfred Jorgensen
Phone: (801) 355-6111

Ty L Howard, Manager
Major New Source Review Section
Utah Division of Air Quality

ABSTRACT

Consolidated Energy has submitted an NOI to construct a 109 MW co-generation power plant in Davis County, Utah. The proposed facility will consist of one large two-stroke engine operating on residual fuel oil, one 814 MMBtu boiler fired with petroleum coke, and two natural-gas fired auxiliary boilers (rated at 126 and 205 MMBtu). The residual fuel oil will be provided by the Holly Refinery located just to the east of the proposed facility's site, while the petroleum coke will be shipped in from off-site. Residual steam from the boiler process will be sold back to the Holly Refinery, although all electricity will be provided to the general power grid. Consolidated Energy proposes to limit the source's hours of operation in order to permit the source under the Synthetic Minor Source classification. The source will be located in Davis County, which is a maintenance area for ozone. No offsets for this source are required given the source's synthetic minor classification and VOC emissions less than 50 tons/yr.

Total emissions, in tons per year, are limited as follows: PM_{10} 60.9; NO_x 98.1; SO_2 97.8; CO 98.0; VOC 49. Emissions of HAPs shall be limited such that no single non-metal HAP shall exceed 8.67 tons/yr, no single metal HAP shall exceed 0.92 tons/yr and no combination of HAPs shall exceed 9.59 tons/yr.

The NOI for the above-referenced project has been evaluated and has been found to be consistent with the requirements of UAC R307. Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an AO by the Executive Secretary of the Utah Air Quality Board.

A 30-day public comment period will be held in accordance with UAC R307-401-7. A notification of the intent to approve will be published in the Salt Lake Tribune and Deseret News on November 16, 2008. During the public comment period the proposal and the evaluation of its impact on air quality will be available for the public to review and provide comment. If anyone so requests a public hearing, it will be held in accordance with UAC R307-401-7. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and the hearing will be evaluated. The proposed conditions of the AO may be changed as a result of the comments received.

Name of Permittee:

Consolidated Energy Utah
1200 Chase Tower
50 West Broadway
Salt Lake City, UT 84101

Permitted Location:

Consolidated Energy Utah- Cogeneration Plant
400 South 1100 West
West Bountiful, UT 84101

UTM coordinates:423487 m Easting, 4526291 m Northing
SIC code:4911 (Electric Services)

Section I: GENERAL PROVISIONS

I.1 All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]

I.2 The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]

I.3 Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]

I.4 All records referenced in this AO, which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or Executive Secretary's representative upon request, and the records shall include the two-year period prior to the date of the request. Records shall be kept for a minimum of five (5) years. [R307-150-1]

I.5 At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4]

I.6 The owner/operator shall comply with R307-150 Series. Inventories, Testing and Monitoring. [R307-150]

I.7 The owner/operator shall comply with UAC R307-107. General Requirements: Unavoidable Breakdowns. [R307-107]

Section II: SPECIAL PROVISIONS

II.A The approved installations shall consist of the following equipment:

II.A.1 **Permitted Source**
Source-wide Conditions and Limitations

II.A.2 **IC Engine**
280 MMBtu/hr Hyundai MAN 12K80MC-S fired on residual fuel oil

II.A.3 **Main Boiler**
814 MMBtu/hr petroleum coke fired boiler

II.A.4 **Steam Turbine**

II.A.5 **Aux. Boiler #1**
126 MMBtu/hr natural gas fired boiler

II.A.6 **Aux. Boiler #2**
205 MMBtu/hr natural gas fired boiler

II.A.7 **Cooling Tower**

II.A.8 **Grinding Mill #1**
35 tons/hr of petroleum coke

II.A.9 **Grinding Mill #2**
Less than 25 tons/hr of limestone

II.A.10 **Hot ESP**
Initial ESP located upstream of the SCR

II.A.11 **SCR**
Two stage SCR system with CO oxidizer catalyst

II.A.12 **FGD**
Wet limestone scrubber

II.A.13 **Wet ESP**
Second ESP located just prior to stack

II.A.14 **Storage Tanks**
Fuel oil storage tanks

II.A.15 **Ancillary Equipment**
Ancillary equipment (fire pumps, raw material storage and processing, waste disposal, etc)

II.A.16 **Main Stack**
240 ft main exhaust stack

II.B Requirements and Limitations

II.B.1 **Conditions on Permitted Source (Source-wide)**

II.B.1.a The height of the main stack shall be no less than 240 ft as measured from the stack base. [R307-410-3]

II.B.1.b Visible emissions from any stationary point or fugitive emission source associated with this plant shall be controlled such that the opacity of those emissions is less than 20%. [R307-401]

II.B.1.b.1 Opacity observations of emissions from stationary or fugitive emission sources shall be conducted in accordance with Method 9. [40 CFR 60 Appendix A]

II.B.1.c The owner/operator shall install, calibrate, maintain, and operate a CEMS on the main stack. The owner/operator shall record the output of the system, for measuring the SO_2 emissions, the NO_x emissions, the CO emissions and the VOC emissions. The monitoring system shall comply with all applicable sections of R307-170; 40 CFR 13; and 40 CFR 60, Appendix B.

Except for system breakdown, repairs, calibration checks, and zero and span adjustments required under paragraph (d) 40 CFR 60.13, the owner/operator of an affected source shall continuously operate all required continuous monitoring systems and shall meet minimum frequency of operation requirements as outlined in 40 CFR 60.13 and Section R307-170. [R307-170]

II.B.1.d This source shall operate in one of the following four (4) modes of operation.

1. Primary Mode
2. Alternate Mode A
3. Alternate Mode B
4. Alternate Mode C

Primary Mode is defined as operating the main boiler with the IC engine running at less than 70% of maximum load. Neither auxiliary boiler is in operation during Primary Mode.

Alternate Mode A is defined as operating the IC engine between 70% and 100% of maximum load, the main boiler not operating, and with either (or both) auxiliary boilers on line.

Alternate Mode B is defined as operating the IC engine running between 70% and 100% of maximum load, the main boiler on line, and both auxiliary boilers off line.

Alternate Mode C is defined as operating only the main boiler, with the IC engine and both auxiliary boilers off line. [R307-401]

II.B.1.e This source shall be operated such that the plant-wide emissions from all operations shall not exceed the following values:

	Pollutant	12-Month Limitation
1.	PM_{10}	60.9 tons
2.	NO_x	98.1 tons
3.	SO_2	97.8 tons
4.	CO	98.0 tons
5.	VOCs	49.0 tons

Compliance with each limitation shall be determined by the results of stack testing as outlined in Condition II.B.1.f.1 or through use of a CEMs as outlined in Condition II.B.1.c. Compliance shall be determined on a rolling 12-month total. Based on the last day of each month, a new 12-month total shall be calculated using data from the previous twelve months. Monthly calculations shall be made no later than 20 days after the end of each calendar month. [R307-401]

II.B.1.f Emissions of PM_{10}, as measured at the main stack, shall not exceed 15.5 lbs/hr for any mode of operation.

Emissions of PM_{10} shall be calculated on a 24-hour average. [R307-401]

II.B.1.f.1 Stack testing to show compliance with the PM_{10} emission limitations stated in the above condition shall be performed at least once every twelve (12) months as measured from the date of the last test. In addition, initial compliance testing is required. The initial test date shall be performed as soon as possible and in no case later than 180 days after the start up of the source.

For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201, 201a, or other testing methods approved by the Executive

Secretary. The back half condensibles shall also be tested using the method specified by the Executive Secretary. All particulate captured shall be considered PM_{10}.

For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate, or other testing methods approved by the Executive Secretary. The back half condensibles shall also be tested using the method specified by the Executive Secretary. The portion of the front half of the catch considered PM_{10} shall be based on information in Appendix B of the fifth edition of the EPA document, AP-42, or other data acceptable to the Executive Secretary.

The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes. [R307-150]

II.B.1.g Emissions of NO_x, as measured at the main stack, shall not exceed 32.0 lbs/hr for any mode of operation.

Emissions of NO_x shall be calculated on a 24-hour average. [R307-401]

II.B.1.g.1 Compliance with the NO_x limitations shall be determined through use of a CEMs as defined in Condition II.B.1.c. [R307-150]

II.B.1.h Emissions of SO_2, as measured at the main stack, shall not exceed 25.5 lbs/hr for any mode of operation.

Emissions of SO_2 shall be calculated on a three (3) hour average. [R307-401]

II.B.1.h.1 Compliance with the SO_2 limitations shall be determined through use of a CEMs as defined in Condition II.B.1.c. [R307-150]

II.B.1.i Emissions of CO, as measured at the main stack, shall not exceed 31.5 lbs/hr for any mode of operation:

Emissions of CO shall be calculated on a one (1) hour average. [R307-401]

II.B.1.i.1 Compliance with the CO limitations shall be determined through use of a CEMs as defined in Condition II.B.1.c. [R307-150]

II.B.1.j Emissions of VOCs, as measured at the main stack, shall not exceed 5.33 ppmdv for any mode of operation:

Emissions of VOCs shall be calculated on a three (3) hour average. [R307-401]

II.B.1.j.1 Compliance with the VOC limitations shall be determined through use of a CEMs as defined in Condition II.B.1.c. [R307-150]

II.B.2 **Conditions on IC Engine**

II.B.2.a The owner/operator shall use only residual fuel oil as fuel for the IC Engine. [R307-401]

II.B.2.b The IC Engine shall only be operated while all of the following systems are operational: FGD scrubbing system, particulate control devices, and SCR system. All exhaust air from the IC Engine shall be routed through these control devices before being vented to the atmosphere. [R307-401]

II.B.3 **Conditions on Main Boiler**

II.B.3.a The owner/operator shall use only petroleum coke as fuel in the Main Boiler. [R307-401]

II.B.3.b The Main Boiler shall only be operated while all of the following systems are operational: FGD scrubbing system, particulate control devices, and SCR system. All exhaust air from the Main Boiler shall be routed through these control devices before being vented to the atmosphere. [R307-401]

II.B.4 **Conditions on Auxiliary Boiler #1**

II.B.4.a The owner/operator shall use only natural gas as fuel in Auxiliary Boiler #1. [R307-401]

II.B.4.b Auxiliary Boiler #1 shall only be operated while all of the following systems are operational: FGD scrubbing system, particulate control devices, and SCR system. All exhaust air from Auxiliary Boiler #1 shall be routed through these control devices before being vented to the atmosphere. [R307-401]

II.B.5 **Conditions on Auxiliary Boiler #2**

II.B.5.a The owner/operator shall use only natural gas as fuel in Auxiliary Boiler #2. [R307-401]

II.B.5.b Auxiliary Boiler #2 shall only be operated while all of the following systems are operational: FGD scrubbing system, particulate control devices, and SCR system. All exhaust air from Auxiliary Boiler #2 shall be routed through these control devices before being vented to the atmosphere. [R307-401]

Section III: APPLICABLE FEDERAL REQUIREMENTS

In addition to the requirements of this AO, all applicable provisions of the following federal programs have been found to apply to this installation. This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including UAC R307.

MACT (Part 63), DDDDD: Ind/Com/Ins Boiler/Process Heatr
MACT (Part 63), Q: Industrial Process Cooling Towers
MACT (Part 63), ZZZZ: Recipro. Int. Comb Engine (RICE)
NSPS (Part 60), Da: Elec Util Steam Gener After 9/18/78
NSPS (Part 60), Db: Indus Com Institn Steam Generator
NSPS (Part 60), IIII: Stationary Comp/Ignit R.I.C.E
NSPS (Part 60), Kb: VolatLiq/PetroStorageVessel 7/23/84
NSPS (Part 60), OOO: NonmetallicMineral ProcessingPlnts
Title IV (Part 72 / Acid Rain), (No subparts)

PERMIT HISTORY

The final AO will be based on the following documents:

Is Derived From	Addendum to Source NOI dated April 22, 2008
Is Derived From	Source NOI dated August 31, 2007

ACRONYMS

The following lists commonly used acronyms and their associated translations as they apply to this document:

40 CFR	Title 40 of the Code of Federal Regulations
AO	Approval Order
ATT	Attainment Area
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDS	Classification Data System (used by EPA to classify sources by size/type)
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CO	Carbon monoxide
COM	Continuous opacity monitor
DAQ	Division of Air Quality (typically interchangeable with UDAQ)
DAQE	This is a document tracking code for internal UDAQ use
EPA	Environmental Protection Agency
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
MACT	Maximum Achievable Control Technology
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NO_x	Oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM_{10}	Particulate matter less than 10 microns in size
$PM_{2.5}$	Particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
R307	Rules Series 307
R307-401	Rules Series 307 - Section 401
SO_2	Sulfur dioxide
Title IV	Title IV of the Clean Air Act
Title V	Title V of the Clean Air Act
UAC	Utah Administrative Code
UDAQ	Utah Division of Air Quality (typically interchangeable with DAQ)
VOC	Volatile organic compounds